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CONSTRUCTION
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CONSTRUCTION PRODUCTS DIVISION
P. A. R.

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REQUEST FOR TECHNICAL SERVICE

NUMBER: 49502
GROUP: ZONOLITE, ORE
DATE: September 23, 1976
CHARGE NO.: 71-070
REQUESTOR: J. Young/Libby
MARKETING or MANUFACTURING APPROVAL
NAME: _____
APPROVED: _____

PROBLEM TITLE: TREMOLITE DETERMINATION OF LIBBY FLOTATION SAMPLES

SIGNIFICANCE:

SPECIFIC OBJECTIVE:

To determine tremolite content at various stages of operation for effective tremolite removal.

SUGGESTED APPROACH:

X-ray Method

DEADLINE (Last day information will be of value):

DETAILS OF PROBLEM:

ACCEPTED BY RESEARCH DEPT.: *Julio C. Yang*

DATE: 9/23/76

ASSIGNED TO: J. C. Yang

ADDITIONAL COPIES: Original to Library, H.A.Brown, H.C.Duecker, R.H.Locke, J.W.Wolter,
R.Oliverio-G.G.Vaplon-J.Young/Libby, CPD-T&A
File: 71-070

CONFIDENTIAL

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REQUEST FOR TECHNICAL SERVICE

NUMBER: T&A 49502
 GROUP: ZONOLITE, ORE
 ACTUAL COST: \$230.00
 REPORTING DATE: September 23, 1976

EXPERIMENTAL

Sample Description:

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Five samples were submitted by J. Young of Libby operation for X-ray diffraction analysis.

The samples are:

- | | |
|--|---------|
| (1) Wet Mill Head Feed | July 15 |
| (2) Wet Mill Head Feed | July 16 |
| (3) Wet Mill Head Feed | July 22 |
| (4) 90' ϕ Thickener Underflow | |
| (5) Tails from the Electrostatic Separator | |

X-Ray Diffraction Analysis:

Large specimens received from Libby (No. 1, 2 and 3), around 5 lbs. each, were quartered many times and samples to assure good representative sampling.

About 20 grams of the material were pulverized to -100 mesh size and subjected to x-ray diffraction analysis.

Percentage of tremolite was determined from the peak intensity readings ($2\theta = 10.55^\circ$, $d = 8.38\text{\AA}$) on the standard calibration curve.

RESULTS

<u>Sample Description:</u>		<u>% Tremolite</u>
1. Wet Mill Head Feed	7/15	12.5
2. Wet Mill Head Feed	7/16	15.5
3. Wet Mill Head Feed	7/22	9.5
4. 90' ϕ Thickener Underflow		13.9
5. Tails for Electrostatic Separator		11.5

The accuracy of these samples is about $\pm 0.5\%$, and samples were run in triplicate.

Julie C. Yang
 Julie C. Yang

JCY:mlr

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